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Dr. Neil J.A. Sloane
Bell Telephone Laboratories
600 Mountain Ave.
New Providence, NJ 07974

Dear Neil:

Here is a possible entry for the next edition of your *Handbook of Integer Sequences*, namely:

~~2 4 8 16 32 64 128 256~~
0, 1, 2, 4, 6, 11, 18, 31, 54, ...

where $a_n = \pi(2^n)$, the number of primes $\leq 2^n$. (By Bertrand /Chebyshev/Erdős, this is a monotone increasing sequence.) Variants include the sequences $\pi(b^n)$ where $b > 1$ is real, and $b = 3$, $b = 10$ or $b = e = 2.718...$ are among the more obvious cases. There is also $\pi(n!)$, and $\pi(P_n)$ where P_n is the product of the first n primes, or the slight variant $\pi(E_n) = \pi(P_n + 1)$ where E_n is the n^{th} "Euclid number", from Euclid's proof of the infinitude of primes.

Sincerely,

Solomon W. Golomb

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